



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,311	06/18/2001	Takao Kimura	Q64954	8933

7590 02/20/2003  
Sughrue Mion Zinn  
Macpeak & Seas  
2100 Pennsylvania Avenue NW  
Washington, DC 20037

EXAMINER

NGUYEN, TAM M

ART UNIT	PAPER NUMBER
----------	--------------

1764

8

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/868,311	KIMURA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tam M. Nguyen	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 24 December 2002.

2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All   b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Response to Amendment***

The rejection of claims 1-6 under 35 USC § 112 is withdrawn by the examiner in view of the amendment filed on December 24, 2002.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "treating a zirconium hydrocarbon" in line 2 of claim 9, renders the claims indefinite because applicants have not specifically indicated that the catalyst comprises zirconium hydroxide. Appropriate correction is required.

The expression "a zirconium hydroxide" in lines 5, 9, and 12 of claim 9 renders the claim indefinite because it is unclear if the expression is the same as the "zirconium hydroxide" in line 2 of claim 9. Appropriate correction is required.

Claim 9 recites the limitation "the treated material" in lines 3 and 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1764

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(b) as anticipated by Baba et al. (5,036,035).

Baba discloses a catalyst composition which comprises a support of zirconium oxide or zirconium hydroxide and 0.01 to 10 wt.% of palladium. The catalyst has a specific surface area of from 70 to about 150 m<sup>2</sup>/g. The catalyst is produced by treating the zirconium support with a sulfate agent and then impregnated with a metal of group VIII (e.g., Pt, Pd, or Ni) onto the treated catalyst which is then calcinated at a temperature from a 450 C to 800<sup>0</sup> C. (See col. 2, line 35 through col. 3, line 51; Tables 1-3; claim 2). It is noted that Baba does not disclose that hydrodesulfurization and isomerization simultaneously occur when a hydrocarbon feed is contacted with the catalyst composition. However, the composition of Baba is the same as the claimed composition and claims 1 and 3 are drawn to a composition not a process. Therefore, claims 1 and 3 are anticipated by Baba.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1764

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 5, 7, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baba et al. (5,036,035).

Baba does not specifically disclose that the catalyst comprises the claimed ratio of Pt/Pd. However, Baba discloses the catalyst comprises at least one metal selected from the group consisting of platinum, ruthenium, rhodium, nickel, and palladium. Baba also discloses that the total amount of metal in the catalyst is from 0.1 to 10 wt.%. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Baba by having platinum and palladium in the catalyst because one of skill in the art would employ any metals in the list including Pt and Pd. Also, one of skill in the

Art Unit: 1764

art would use any ratios of Pt/Pd including the claimed ratio in the Baba process because the ratio of Pt/Pd is not critical in the Baba process. The total amount of metals in the catalyst is critical.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gosling et al. (5,837,641) in view of Baba et al. (5,036,035).

Gosling discloses a process of hydrodesulfurization and isomerization of a light hydrocarbon oil by using a catalyst comprising a zirconium oxide support, sulfate, and a VIII metal (e.g., Pt, Pd, or Ni). The process is operated at a temperature of about 204° C, at a pressure of about 250 psig (1.7 MPa), and at a ratio of hydrogen/hydrocarbon of about 2. (See col. 2, line 31 through col. 3, line 42; examples 1 and 2)

Gosling does not disclose the specific surface area of the catalyst and does not disclose the LHSV of the process. However Baba discloses an isomerization process wherein the isomerization process is operated at a liquid hourly space velocity (LHSV) of from 0.5 to 10 h<sup>-1</sup> and wherein the catalyst used has a surface area of from 70 to about 150 m<sup>2</sup>/g (see col. 4, lines 25-40; Tables 1-3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Gosling by operating the process at a LHSV of from 0.5 to 10 h<sup>-1</sup> and having the claimed surface area because Baba discloses that such LHSV values and such surface areas are effective in an isomerization process.

### ***Response to Arguments***

Regarding claims 1 and 3, the argument that Baba does not disclose that hydrodesulfurization and isomerization simultaneously occur when a hydrocarbon feed is

Art Unit: 1764

contacted with the catalyst composition is noted. However, the argument is not persuasive because the composition of Baba is the same as the claimed composition and the intended use of the composition is not patentably significant.

The argument that Gosling does not teach a process for hydrodesulfurization and isomerization is noted. However, the argument is not persuasive because Gosling discloses that the catalyst can be applied in hydrodesulfurization and isomerization processes (see col. 1, lines 51 through col. 2, line 2). Therefore, when utilizing the catalyst of Gosling, it would be expected that hydrodesulfurization and isomerization are simultaneously achieved if one of skill in the art desires so.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1764

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (703) 305-7715.

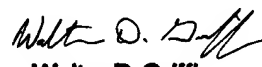
The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tam M. Nguyen  
Examiner  
Art Unit 1764

Tam Nguyen/ TN  
February 18, 2003

  
**Walter D. Griffin**  
**Primary Examiner**